

ABSTRACT OF THE INVENTION

An optical fiber comprising: (i) a central core having a relative refractive index delta Δ_C ; (ii) a multi-pedestal region in contact with and surrounding the core, said multi-pedestal region having an outer radius of less than $25\mu\text{m}$ and at least two pedestals, each of the pedestals being in contact and adjacent to at least one other pedestal, each of the pedestals having a relative refractive index Δ_{ped} lower than Δ_C , at least one of the pedestals having Δ_{ped} value higher than 0.2%; and (iii) another region in contact and surrounding the multi-pedestal region, the other region having a relative refractive index delta which is lower than that of any pedestal.